

## POST-CONSTRUCTION REPORT FORMAT

### 1.0 INTRODUCTION

#### 1.1 Purpose and Scope

This Post-Construction Report (PCR) [for Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) projects] documents the completion of the construction of the remedial action (RA) for the closure of the *Operable Unit Name* operable unit (OU). It summarizes construction activities performed to implement the RA requirements in the *Operable Unit Name* Record of Decision (ROD) in accordance with the approved Corrective Measures Implementation (CMI)/Remedial Action Implementation Report (RAIP) (WSRC XXXX).

The future completion of the RA and other post-construction activities (see Section 7.0) will be reported in the Final Remediation Report (FRR) in accordance with the Federal Facility Agreement (FFA).

This report includes the following items:

- A brief description of the OU background including RA requirements and objectives
- A chronology of completed events related to remediation of the OU
- A summary of construction activities performed
- Deviations from the original design per the approved CMI/RAIP

- Performance standards and quality control inspections, including a summary of performance test results documenting verification of compliance with the acceptance criteria in the CMI/RAIP
- Certification of construction completion
- As-built drawings
- Forecasts of RA post-construction activities (e.g., startup tests, operation and maintenance) per the CMI/RAIP and the ROD (as appropriate)
- Project costs [including RA capital costs incurred to date, forecast RA operating costs, post-RA annual Operations and Maintenance (O&M) costs and total present worth (PW) costs.]

#### **1.1.1 Document Format**

[Typically addresses the document format used, including the basis for the format. This section should include specific details regarding any deviation from the generic description as well as the basis of the deviation.]

This PCR was prepared in accordance with the requirements for submittal of regulatory documents as identified in the FFA (1993) and the latest format for the PCR in the Regulatory Document Handbook (WSRC 2000). This format was developed in accordance with United States Environmental Protection Agency (USEPA) latest guidelines (USEPA 2000).

The *Operable Unit Name* source OU will require long-term RA (i.e., the final RA will require long-term operation of the constructed equipment for treatment of contaminants in the source unit or in the groundwater). Therefore a CMIR/FRR will be submitted upon

completion of RA and this PCR is being submitted upon completion of the construction of operating equipment.

## **1.2 Operable Unit Background**

The *Operable Unit Name* source OU is listed as a Resource Conservation Recovery Act (RCRA) 3004(u) Solid Waste Management Unit/Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Unit in Appendix C of the FFA for Savannah River Site (SRS).

[Since earlier documents have provided the same information in detail, the PCR provides a brief description of the OU with emphasis on RA requirements, including whether the OU is a RCRA and/or CERCLA unit. Reference Figure 1.]

**Figure 1.     *Operable Unit Name* Location on SRS Map**

### **1.3 Remedial Action Requirements and Objectives**

#### **1.3.1 Remedial Action Objectives**

As stated in the ROD (WSRC XXXX), the remedial action objectives (RAOs) for the *Operable Unit Name* are as follows:

[Provide text from ROD]

#### **1.3.2 Selected Remedial Action**

As stated in the ROD (WSRC XXXX), the selected RA for the *Operable Unit Name* included the following elements:

[Provide text from ROD]

### **1.4 Chronology of Events**

[A tabular summary (reference Table 1) that lists major milestones and dates related to the RA for the OU, starting with ROD signature, (e.g., RA start/mobilization, site preparation, stabilization, soil cover installation, final inspection [regulatory walkdown], etc.), any major changes from the approved CMI/RAIP (change in technology, change in RA, etc.) where it was necessary to get regulatory/core team approval, demobilization and final inspection of completed construction. For future post-construction activities (like start-up, operation and/or maintenance, effectiveness monitoring activities as applicable) and the FRR, the PCR refers to the RA implementation schedule and the discussion in Section 7.0 of this PCR.]

**Table 1. Chronology of Events**

<u>Description of Activity</u>	<u>Start Date</u>

## **2.0 CONSTRUCTION ACTIVITIES**

[Provides a summary of construction activities performed during the construction phase in accordance with the approved CMI/RAIP. The first numbered section, which should be titled "OU Construction Team," briefly describes names and roles of prime subcontractors associated with the RA. The next numbered sections will provide a brief narrative following the sequence of activities listed in Section 1.4. The narrative will describe any treatment process required to implement the remedial design, materials and equipment used, successes and problems encountered during construction and resolution of problems (including innovative solutions, if any), and causes for delay. These sections also include brief discussions of unexpected conditions encountered in the field, particularly those that affected the scope or schedule of the construction work.

The last numbered section, which should be titled "Secondary Waste Disposal," provides the specific details of the unit's waste management plan and the CMI/RAIP waste section. Describe the waste types, waste volumes, methods, consistent with SRS procedures, that were used for waste characterization (e.g., testing methods), disposal (include location such as onsite, offsite at SRS, off SRS at XYZ facility) and transportation (include contaminant limits) during construction, as applicable to the selected RA].

### 3.0 DEVIATIONS FROM ORIGINAL DESIGN

[Identifies design changes from the approved CMI/RAIP required during construction as well as the technical basis for those changes. The discussion includes all changes made during construction, regardless of whether those changes were previously communicated to South Carolina Department of Health and Environmental Control (SCDHEC) and United States Environmental Protection Agency (USEPA). The process and scope of design change notifications are discussed in the CMI/RAIP.]

Several design and construction changes were needed during construction to resolve construction problems. The project team reviewed all changes prior to implementation to ensure compliance with regulatory requirements in the ROD and the CMI/RAIP. Consistent with the CMI/RAIP, notifications were made to USEPA and SCDHEC as appropriate. Table 2 provides a summary of all such changes.

The basis and resolution of deviations from the original design are detailed below. Where applicable, a statement is provided on whether the deviation still meets a performance criterion.

**Table 2. Summary of Design Changes**

Item	Change	Reason
1		
2		
3		

### 4.0 VERIFICATION SAMPLING, TESTING AND ANALYSIS, PERFORMANCE STANDARDS, AND CONSTRUCTION QUALITY CONTROL

[Cites appropriate reference to the performance requirements (acceptance criteria) as required per the CMI/RAIP which are derived from the RAOs in the ROD for the remedial action and the construction quality control requirements in the specification.]

Provides a brief discussion of collection of test samples, a comparison of test results with those acceptance criteria, and a description of how those criteria were met. It also provides discussion on non-conforming conditions identified during the quality control inspection and how those non-conformances were resolved to meet the specified performance criteria.]

## **5.0 CERTIFICATION OF CONSTRUCTION COMPLETION AND FINAL INSPECTION**

### **5.1 Certification of Construction Completion**

[Provides text stating that as detailed in Section 4.0, construction activities required for the RA have met the acceptance criteria established in the approved CMI/RAIP. The results of the analytical sampling and testing have been documented and the records are on file at SRS Soil and Groundwater Closure Projects (SGCP) Document Control in the project file.]

### **5.2 Final Inspection**

The final walkdown inspection with participation of USEPA and SCDHEC [as applicable] was performed [provide date].

## **6.0 AS-BUILT DRAWINGS**

### **6.1 As-Built Drawings**

[Provides the as-built drawings for the project, which are updated drawings provided in the approved CMI/RAIP and are included in Attachment A of this PCR.]



## **6.2 Well Modifications**

[This section provides a summary or attaches a report of any well modifications (e.g., well abandonment, well extension or protection).]

See Appendix A of this PCR for attached reports.

## **7.0 POST-CONSTRUCTION ACTIVITIES**

[Provides a forecast schedule and refers to the approved CMI/RAIP for discussion of scope and content. As explained in Section 1.0, the PCR also refers to the subsequent Post-ROD documents (e.g., the FRR) to report completion of post-construction activities required by long-term remedial actions for the final closure of the OU. Such activities included (when required per the CMI/RAIP and the unit specific ROD) start-up testing, operations, and effectiveness monitoring report. Maintenance and institutional controls per the Land Use Control Implementation Plan (LUCIP) will be reported during the five-year review of the remedy.]

## **8.0 PROJECT COSTS**

[Provides in a table format (reference Table 3) a cost comparison of the final costs to the original ROD cost estimate of the remedial action activities completed in the construction phase. Cost deviations, beyond -30% or +50%, from the ROD cost estimate are discussed.

The cost breakdown is limited to that which was presented in the ROD. As an example, the combined remedial action construction costs are as follows.]

Table 3. Project Cost Comparison

Project Construction Cost Comparison (Example)			
	ROD Construction Cost (\$K)	Incurred Construction Cost (\$K)	Delta Cost (%)
Soil Cover Construction	175	157	(10%)

[If applicable, separate into equipment, non-equipment, and O&M categories.]

## **9.0 REFERENCES**

[Provides a list of reports or other documents referenced in the body of the PCR.]

FFA, 1993. Federal Facility Agreement for the Savannah River Site, Administrative Docket No. 89-05-FF (Effective Date: August 16, 1993)

USEPA, 2000. *Closeout Procedures for National Priorities List Sites*, #EPA-540-R-98-016, January 2000

## **10.0 APPENDICES**

[Provides a list of reports or other stand-alone documents referenced in the body of the PCR.]

## **11.0 ATTACHMENTS**

[Provides documents developed specifically for this project (e.g., as-built drawings).]

**Appendix A**  
**Significant Reference Documents**

[Examples: RA Start Notification Letter, , USEPA/SCDHEC Walkdown Memo, Well Abandonment Reports]

**Attachment A**

**As-Built Drawings**